HR Data Retrieval in an LDAP-Enabled Directory Service

mySAP ERP 2005

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Icons in Body Text

Icon	Meaning
⚠	Caution
💬	Example
💡	Note
🧭	Recommendation
SYN	Syntax

Additional icons are used in SAP Library documentation to help you identify different types of information at a glance. For more information, see *Help on Help* → *General Information Classes and Information Classes for Business Information Warehouse* on the first page of any version of *SAP Library*.

Typographic Conventions

Type Style	Description
Example text	Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options.
	Cross-references to other documentation.
Example text	Emphasized words or phrases in body text, graphic titles, and table titles.
EXAMPLE TEXT	Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE.
Example text	Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools.
Example text	Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.
<Example text>	Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.
EXAMPLE TEXT	Keys on the keyboard, for example, F2 or ENTER.

HR Data Retrieval in an LDAP-Enabled Directory Service

Use

With this function you can edit HR data in the HR system as described below and transfer it to an LDAP-enabled directory service:

- You can retrieve the data in the HR system.

  You can use a query or an ABAP report to retrieve the data. The following documentation describes the functions and processes that are involved in this data retrieval concept.

- You can format the data in the HR system.

  In the HR system, formatting data includes the function of mapping query fields to logical SAP data fields.

- You can make the data available in a LDAP-enabled directory service.

  This function lets you provide access to HR data on a LDAP server in a distributed system landscape.

  Another advantage of making HR data available in the LDAP-enabled directory service is that you can use this data application- and platform-independent and can access the data by means of a standard protocol.

  > The user authorizations defined regulate access to the HR data.

Integration

This function is integrated with the functions that are available to you with the BC Directory Services [Ext.] in the *SAP Web Application Server*.

Before you can retrieve HR data from a LDAP-enabled directory service, you must make the required general settings (transaction LDAPMAP) for the directory services in the *SAP Web Application Server,* that is, the Synchronization of the SAP Database with the LDAP-Enabled Directory Service [Ext.].

Prerequisites

HR System

- You have created an RFC destination from your HR system to the *SAP Web Application Server*.

- You have decided what HR data you want to make accessible as attributes in the directory service.

- You have decided whether you want to retrieve the data using a query or an ABAP report.

See also:

SAP Web Application Server

- Your system landscape has at least version *6.10* of the *SAP Web Application Server*. This contains the software component LDAP Connector that controls the flow of communication between the SAP systems and the directory service servers.

- You have made the required settings that enable the system to map the SAP data fields to the directory service attributes (transaction LDAPMAP).

For more information, see the documentation for the *SAP Web Application Server* under Mapping and Synchronization Process [Ext.].

Features

In order to retrieve the data you require an InfoSet and a corresponding query or an ABAP report. The InfoSet must contain the fields that are evaluated in the query.

You execute the data extraction from the HR System with report RPLDAP_EXTRACT. The system transfers the data to the *SAP Web Application Server* using the RFC-enabled function module SPLDAP_RECEIVE_ATTRIBUTES. The function module exports the data by means of the LDAP Connector to the directory service.

If you want to update the data in your LDAP-enabled directory service at regular intervals, you can schedule the report RPLDAP_EXTRACT to run regularly in the background.

You can restrict the set of personnel numbers whose data you want to transfer to the directory service either in report RPLDAP_EXTRACT or using a query or a report variant.

If you want to retain status information on the data transport from the HR System to the LDAP-enabled directory service, you can use the reports SPLDAP_DISPLAY_LOGTABLES and RPLDAP_CLEAN_UP_LOG_TABLES. You can use the reports to display or delete the transport log of the data record export.

> The SPLDAP_DISPLAY_LOGTABLES report is only provided with the *SAP Web Application Server* 6.20. You can access the report in the *SAP Web Application Server* 6.10 by importing the relevant support package.

Data Retrieval Using a Query

Use

With this function, you can use a query to retrieve data in your HR System that you want to transfer to a LDAP-enabled directory service.

Features

To retrieve data with the help of a query, create an InfoSet and a query based on the InfoSet. There will be some differences in how the query is executed and how the query results are processed depending on the release version of your HR System:

- Release 4.6B and higher

  The system calls the function module RSAQ_QUERY_CALL from the report RPLDAP_EXTRACT. This executes the query and returns the results in a table. The system then transfers the query results to the function module LDA_PROCESS_QUERY_RESULT. This formats the data according to the mapping definitions you made in transaction HRLDAP_MAP and transfers the data to the function module SPLDAP_RECEIVE_ATTRIBUTES in the *SAP Web Application Server*. The function module exports the data by means of the LDAP Connector to the directory service.

- Releases 4.0B and 4.5B

  The system calls the query from the report RPLDAP_EXTRACT via SUBMIT... AND RETURN. The system uses the *Private Folder* of SAP Query to further process the query results. You must activate this in the enhancement SQUE0001. To do so, you must integrate the Include RPLDAD_QUERY_PRIVATE_FILE in the function module EXIT_RSAQEXE_001. This Include calls the function module LDA_PROCESS_QUERY_RESULT. This in turn converts the attribute structures corresponding to the directory service and returns this data to the function module SPLDAP_RECEIVE_ATTRIBUTES in the *SAP Web Application Server*. The function module exports the data by means of the LDAP Connector to the directory service.

  If your HR System is Release 4.0B or 4.5B, note the following points:

  In addition to creating a query, you must create a query variant that uses the *Private Folder* for output.

  You must activate the *private folder* in the SAP enhancement SQUE0001.

  To do so, you must integrate the Include RPLDAD_QUERY_PRIVATE_FILE in the function module EXIT_RSAQEXE_001. This enables the system to process the query results further.

HR-Specific Directory Service Attributes

Definition

Logical SAP data fields of *Personnel Management* that can be mapped to the corresponding directory service attributes of a directory schema.

Since the InfoSet fields generally have very technical names, you can assign mnemonic names the SAP data fields in *Personnel Management*. This lets you make logical SAP data fields out of SAP data fields since the fields are not only identified by their technical names.

Use

You can make HR-specific directory service attributes accessible as employee-specific data (e.g. name, internal telephone number) in a LDAP-enabled directory service.

You can use a query or an ABAP report to retrieve the HR-specific directory service attributes.

See also:

Mapping Query Fields to Logical SAP Data Fields

Purpose

You use this process to map query fields to logical SAP data fields.

> Please note that you should use the functions provided in the *SAP Web Application Server* to execute the mapping of logical SAP data fields to the directory service attributes.

Prerequisites

- You have specified what attributes you want to make available in the LDAP-enabled directory service.

- You have decided to retrieve the HR data using a query.

  > With this data retrieval concept we provide you with functions for mapping logical SAP data fields to the directory service to simplify the retrieval and formatting processes.

Process Flow

1. You create an InfoSet and a query based on the InfoSet.

2. In your HR System you execute the report RPLDAP_QUERY_MAPPING (or transaction HRLDAP_MAP). In this report you can manually assign mnemonic names for your attributes and attribute groups in the query fields.

   > The InfoSet fields generally have very technical names This process enables you to name the SAP data fields mnemonically. These attribute names correspond to logical SAP data fields, which in turn are represented by freely-definable names.
   >
   > The main function of attribute groups is to provide you with a clearer overview. They enable you group attributes that belong together. You should assign the same attribute group names to attribute names that you consider logically belong together in order to create logically coherent groups. (For example, you may want to group attributes together that have to do with communication or with organizational assignment.)
   >
   > Assigning mnemonic attribute group names and attribute names makes the job of mapping SAP data fields to the directory service attributes in the S*AP Web Application Server* easier.

Result

This process completes the formatting of data in the HR System.

Data Extraction Based on a Query

Purpose

This process flow describes how to specify the set of HR-specific directory service attributes [Page 8] using an InfoSet and a query, and how to execute data extraction from the HR System to the LDAP-enabled directory service.

Process Flow

1. You create an InfoSet that contains all of the fields you want to use as directory service attributes.

   ⚠️

   The InfoSet must contain the field *Personnel number* (P0000-PERNR) as identifier.

2. You create a query based on the InfoSet.

   ⚠️

   The output list of the query must contain the field *Personnel number* (P0000-PERNR) as identifier.

   In pre-4.6B releases, you must use the *Private Folder* of the SAP Query for your own query. To be able to use the *private folder*, you must create a variant for your query.

3. In the HR System you map the query fields to the logical SAP data fields using report RPLDAP_QUERY_MAPPING (or transaction HRLDAP_MAP).

4. In the *SAP Web Application Server* you check whether the attributes you want read by the query already exist in your directory schema and, if necessary, extend your schema.

   💡

   For more information on this, see the documentation for the *SAP Web Application Server* under Mapping SAP Data Fields to Directory Service Attributes [Ext.].

5. You make the required settings in the *SAP Web Application Server* for mapping the logical SAP data fields to the directory service attributes (transaction LDAPMAP).

   💡

   For more information on this, see the documentation for the *SAP Web Application Server* under Mapping and Synchronization Process [Ext.].

6. Using report RPLDAP_EXTRACT you start the data extraction from the HR system to the LDAP-enabled directory service and on the report's selection screen, you enter the name of your query as the data source.

7. In the *SAP Web Application Server* you check the transport log for the data export from the HR System to the directory service.

   💡

   We provide the two reports SPLDAP_DISPLAY_LOGTABLES and RPLDAP_CLEAN_UP_LOG_TABLES for this purpose.

   Report SPLDAP_DISPLAY_LOGTABLES is provided with the *SAP Web Application Server* 6.20. You can access the report in the *SAP Web Application Server 6.10* by importing the relevant support package.

8. You execute the report SPLDAP_DISPLAY_LOGTABLES.

> If you do not use the *SAP Web Application Server* 6.20 or have not imported the support package for the *SAP Web Application Server* 6.10 yet, you can display the messages about non exportable data records directly in tables TLDA_LOG and TLDA_MSG.

   a) If the transport log records no errors, you have successfully transferred the HR data to the LDAP-enabled directory service.

   b) If errors are recorded in the transport log, execute the report RPLDAP_CLEAN_UP_LOG_TABLES and delete specific entries in the transport log or delete the transport log completely.

   > Performing the activities in the sequence described in the report documentation will simplify the data transports for you.
   >
   > You should carry out steps 7 and 8 since the system does not delete data records that were successfully updated from the log tables in the event of another data export.

9. You repeat steps 6 to 8 until there are no more errors in the transport log.

Result

You have specified the set of attributes and successfully executed the data extraction from the HR System to the LDAP-enabled directory service.

See also:

Data Retrieval Using a Query [Page 7]

Data Retrieval Using an ABAP Report

Use

If you do not want to use a query to retrieve the HR data that you plan to use as attributes in the directory service, you can use an ABAP report to retrieve the data instead.

> The names of the logical SAP data fields are exactly the same names used by your report in the *SAP Web Application Server* to transfer corresponding values to the function module SPLDAP_RECEIVE_ATTRIBUTES.
>
> If you want to use an ABAP report to retrieve data in your HR System, you do not need to do any mapping on the HR side, in other words, you map the logical SAP data fields directly to the directory service attributes. You must perform this step using the functions provided in the *SAP Web Application Server.*

Prerequisites

You have programmed an ABAP report.

> The report must fulfill the following prerequisites:
>
> When you start the ABAP report, the parameters selected in the scheduler (e.g. LDAP Server) must be imported from the ABAP Memory to the ABAP report. The report must call the function module LDA_IMPORT_PARAMS for this purpose. When data has been retrieved by the report, the function module SPLDAP_RECEIVE_ATTRIBUTES must transfer the attribute set for further processing to the LDAP Connector.
>
> We deliver a sample report (ABAP Report RPLDAP_MANAGER) that fulfills these requirements.

Data Extraction Based on an ABAP Report

Purpose

The following process flow describes how to export HR data retrieved by an ABAP report from the HR System to the LDAP-enabled directory service.

Prerequisites

The HR data you want to make available in the LDAP-enabled directory service was retrieved by an ABAP report.

Process Flow

1. Using report RPLDAP_EXTRACT you start the data extraction from the HR System to the LDAP-enabled directory service and on the report's selection screen, you enter the name of your ABAP report as the data source.

2. In the *SAP Web Application Server* you check the transport log for the data export from the HR System to the directory service.

   We provide the two reports SPLDAP_DISPLAY_LOGTABLES and RPLDAP_CLEAN_UP_LOG_TABLES for this purpose.

   Please note that the report SPLDAP_DISPLAY_LOGTABLES is provided with the *SAP Web Application Server* 6.20. By importing the relevant support package for the *SAP Web Application Server* 6.10, you can access the report there too.

3. You execute the report SPLDAP_DISPLAY_LOGTABLES.

   If you do not use the *SAP Web Application Server* 6.20 or have not imported the support package for the *SAP Web Application Server* 6.10 yet, you can display the messages about the non exportable data records directly in tables TLDA_LOG and TLDA_MSG.

   a) If the transport log records no errors, you have successfully transferred the HR data to the LDAP-enabled directory service.

   b) If errors are recorded in the transport log, execute the report RPLDAP_CLEAN_UP_LOG_TABLES and delete specific entries in the transport log or delete the transport log completely.

   Performing the activities in the sequence described in the report documentation will simplify the data transports for you.

   You should carry out steps 2 and 3 since the system does not delete data records that were successfully updated from the log tables in the event of another data export.

4. You repeat steps 1 to 3 until there are no more errors in the transport log.

Result

You have successfully completed the data extraction of HR data to a LDAP-enabled directory service.

See also:

Data Retrieval Using an ABAP Report [Page 12]

Data Retrieval Using an ABAP Report [Page 12]

Adjustment of Attribute Values

Use

This function lets you change the default values for the keys of employee records and assign user names that uniquely identify employees in the *mySAP Enterprise Portals* system group. The Business Add-In (BadI) HRLDAP_ATTRIBUTES is provided in the *SAP Web Application Server* for this purpose.

Features

In the standard system, the key of an employee data record is a string made up of the logical system name, the personnel number and, as *mySAP Enterprise Portals* user name, the user name that is stored for the employee in the HR System, where relevant.

> The key of the employee data record and the user name in the *mySAP Enterprise Portals* system group must both be unique. Generally speaking, the key delivered in the standard implementation should satisfy the requirements regarding the employee record key. It may happen however that the requirement for the user name in *mySAP Enterprise Portals* is not always fulfilled.